CLAIM LISTING

1. (currently amended) A method for data transmission, the method comprising the steps of:

(a) receiving a plurality of higher-layer packets;

(b) determining an error rate of a transmission;

(c) determining a lower-layer packet size based on the error rate, wherein determining the lower-layer packet size comprises determining an optimal number of higher-layer packets that can be multiplexed onto a single lower-layer packet;

(d) multiplexing higher-layer packets onto a lower-layer packet, the lower-layer packet having a size as determined in step (C); and

(e) transmitting the lower-layer packet.

2. (original) The method of claim 1 wherein the step of receiving the plurality of higher-layer packets comprises the step of receiving the plurality of higher-layer packets from a plurality of users.

3. (original) The method of claim 1 wherein the step of receiving the plurality of higher-layer packets comprises the step of receiving a plurality of higher-layer TCP/IP packets.

4. (original) The method of claim 1 wherein the step of determining the error rate comprises the step of determining a bit error rate (BER)

5. (canceled)

6. (original) The method of claim1 wherein the step of multiplexing the higher-layer packets onto the lower-layer packet comprises the step of multiplexing UDP/IP packets onto a single PPP packet utilizing PPPmuxing techniques.

7. (currently amended) A method comprising the steps of:

receiving a plurality of UDP/IP packets from a plurality of users;

determining an error rate;

determining a PPP packet size based on the error rate, wherein determining the PPP packet size comprises determining an optimal number of UDP/IP packets that can be multiplexed onto a single PPP packet;

multiplexing the plurality of UDP/IP packets onto a PPP packet having a size equal to the PPP packet size; and

transmitting the PPP packet.

8. (original) The method of claim 7 wherein the step of receiving the plurality of UDP/IP packets comprises the step of receiving the plurality of UDP/IP packets from a plurality of remote or mobile users.

9. (original) The method of claim 7 wherein the step of determining the error rate comprises the step of determining a bit error rate (BER).

10. (canceled)

11. (original) The method of claim 7 wherein the step of multiplexing the plurality of UDP/IP packets onto the PPP packet comprises the step of utilizing PPPmuxing techniques to multiplex the plurality of UDP/IP packets onto the PPP packet.

12. (currently amended) An apparatus comprising:

a packet error estimator outputting a transmission error rate; and

a multiplexer having the transmission error rate as an input, having a plurality of higher-layer packets as an input, determining a lower-layer packet size based on the transmission error rate, and multiplexing the plurality of higher-layer packets onto a lower-layer packet, wherein the lower-layer packet has a size equal to the lower-layer packet size and wherein determining the lower-layer packet size comprises determining an optimal number of higher-layer packets that can be multiplexed onto a single lower-layer packet.

13. (original) The apparatus of claim 12 wherein the multiplexer is a PPP multiplexer performing PPPmuxing.

14. (original) The apparatus of claim 12 wherein the transmission error rate is bit error rate (BER)

15. (original) The apparatus of claim 12 wherein the higher-layer packets comprise UDP/IP packets.

16. (original) The apparatus of claim 12 wherein the lower-layer packet comprises a PPP packet.